IN THE CLAIMS:

Kindly rewrite Claims 1-17 and add Claims 18-21, as follows:

1. (Currently Amended) A method for measuring partial discharges in windings of electrical devices, the method comprising:

applying voltages having high frequency components to the winding of the electrical device;

detecting partial discharge signals using a plurality of tuned VHF electromagnetic sensors, UHF electromagnetic sensors, or both, being arranged at a plurality of ~~freely chosen~~ positions close to and electrically disconnected from the electrical device to determine the position of the discharge location; or

detecting partial discharge signals using one tuned VHF electromagnetic sensor, UHF electromagnetic sensors, or both, being sequentially arranged at a plurality of ~~freely chosen~~ positions close to and electrically disconnected from the electrical device to determine the position of the discharge location; and

evaluating the detected sensor signals using electrical hardware, software, or both.

2. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, further comprising:

applying a suitable surge test pulse voltage to the windings of the electrical device.

3. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, wherein the plurality of sensors comprises at least three sensors.

4. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, wherein the applied voltage comprises a high frequency AC or a DC voltage or a frequency converter output.

5. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, further comprising:

applying a surge test voltage having a variable pulse, wherein the repetition rates are

different from 50/60 Hz.

6. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, further comprising:

filtering the detected sensor signals by a conditioning circuit.

7. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, further comprising:

filtering the detected sensor signals with a software filter.

8. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, further comprising

quantitatively characterizing the discharge patterns using stochastic analysis.

9. (Currently Amended) A method for measuring partial discharges in windings of electrical devices according to claim 1, wherein ~~the~~ at least one sensor is located near the coils connected to the high voltage source.

10. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 1, wherein at least two high frequency sensors are positioned near to the machine's high voltage terminal and to the low voltage terminal, respectively, and further comprising:

rejecting noise, inferring the discharge position along the winding, or both, using a differential measuring mode.

11. (Withdrawn) An electromagnetic sensor for measuring partial discharges in windings of electrical devices comprising:

an antenna comprising a coaxial cable useful as a VHF electromagnetic sensor, a UHF

electromagnetic sensor, or both;

wherein the sensor comprises a linear antenna.

12. (Withdrawn) An electromagnetic sensor for measuring partial discharges in windings of electrical devices according to claim 11, wherein the tuned frequency of the antenna is selected according to the signal range of interest.

13. (Withdrawn) An electromagnetic sensor for measuring partial discharges in windings of electrical devices according to claim 11, wherein the coaxial cable comprises an inner conductor freed in a length of ¼ wavelength corresponding to the tuned frequency to be detected.

14. (Withdrawn) An electromagnetic sensor for measuring partial discharges in windings of electrical devices according to claim 11, wherein the length of the antenna is 25 mm for a tuned frequency of 3 GHz.

15. (Original) A method for measuring partial discharges in windings of electrical devices according to claim 7, wherein the software filter comprises a filter based on the Fast Fourier Transformation.

16. (Withdrawn) An electromagnetic sensor for measuring partial discharges in windings of electrical devices according to claim 11, wherein the linear antenna is coupled to the transverse electric and magnetic field.

17. (Withdrawn) An electromagnetic sensor for measuring partial discharges in windings of electrical devices according to claim 12, wherein the tuned frequency of the antenna is in the GHz range.

18. (New) A method for measuring partial discharges in windings of electrical devices according to Claim 1, wherein detecting comprises detecting with at least one sensor having a preselected tuned frequency.

19. (New) A method for measuring partial discharges in windings of electrical devices according to Claim 1, wherein detecting comprises detecting with at least one linear antenna tuned as a VHF electromagnetic sensor, a UHF electromagnetic sensor, or both.

20. (New) A method for measuring partial discharges in windings of electrical devices according to Claim 1, wherein detecting comprises detecting with at least one sensor having a tuned frequency selected to attenuate a test surge signal more than a discharge signal.

21. (New) A method for measuring partial discharges in windings of electrical devices according to Claim 1, wherein detecting comprises detecting with at least one sensor located in a freely chosen position.